

1 What is claimed is:

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3 1. Electronic circuit for short-circuit monitoring one of at least two series-  
4 connected intermediate-circuit capacitor units, whereby the instantaneous  
5 difference between the voltage present at the junction between two of the  
6 units to be monitored and a reference voltage that is relevant for the  
7 monitoring and is shunted from the intermediate-circuit voltage is used as  
8 the control signal, which, if the capacitor short circuits, falls below or  
9 exceeds a response threshold and thereby generates an error signal.

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11 2. The electronic circuit as recited in Claim 1,  
12 wherein each intermediate-circuit capacitor unit is composed of one or  
13 more capacitor(s) connected in series and/or in parallel.

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15 3. The electronic circuit as recited in Claim 1 or 2,  
16 wherein the reference voltage is formed by a chain of series-connected  
17 resistors, which is connected in parallel with the intermediate-circuit  
18 capacitor units to be monitored.

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20 4. The electronic circuit as recited in one of the Claims 1 through 3,  
21 wherein the response threshold that is relevant for the system is  
22 determined by the breakdown voltage of a zener diode.

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24 5. The electronic circuit as recited in one of the Claims 1 through 4,  
25 wherein an error signal voltage is generated using a current-voltage  
26 converter directly from the current that flows due to the voltage asymmetry  
27 produced when an error occurs.

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29 6. The electronic circuit as recited in one of the Claims 1 through 5,  
30 wherein the current, which flows when an error occurs, is limited by the  
31 resistance of the chain of resistors.

- 1    7.    The electronic circuit as recited in one of the Claims 1 through 6,  
2        wherein each of the intermediate-circuit capacitor units to be monitored  
3        corresponds to a part of the chain of resistors, whereby the part is  
4        composed of one or more resistors.  
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- 6    8.    The electronic circuit as recited in one of the Claims 1 through 7,  
7        wherein the ratio of capacitor capacitance to the corresponding part of the  
8        chain of resistors is essentially the same for all pairs of corresponding  
9        resistor parts and capacitors.  
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- 11   9.    The electronic circuit as recited in one of the Claims 1 through 8,  
12        wherein the error signal voltage is based on a freely selectable ground  
13        potential.  
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- 15   10.   The electronic circuit as recited in one of the Claims 1 through 9,  
16        wherein the error signal voltage is detected using a light-emitting diode-  
17        photodiode pair.  
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- 19   11.   The electronic circuit as recited in one of the Claims 1 through 10,  
20        wherein all intermediate-circuit capacitor units have the same capacitance.  
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- 22   12.   The electronic circuit as recited in one of the Claims 1 through 11,  
23        wherein each of the intermediate-circuit capacitor units is composed of  
24        one capacitor.  
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- 26   13.   The electronic circuit as recited in one of the Claims 1 through 12,  
27        wherein every part of the chain of resistors is composed of one resistor.  
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